

## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER OF PATENTS AND TRADEMARKS Washington, D.C. 20231 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/866,021	05/23/2001	Boris I. Yakobson	5051-416DV	6193	
2011.74	590 03:07/2003 EL SIBLEY & SAJOVE	C	EXAM	EXAMINER	
PO BOX 37423 RALEIGH, NO	8		LISH, P	ETER J	
KALDON, NO	, 21021		ART UNIT	PAPER NUMBER	
			1754 DATE MAILED: 03/07/2003	(0	

Please find below and/or attached an Office communication concerning this application or proceeding.

	(Applicant(s)
Application No.	Applicant(s)
09/866,021	YAKOBSON, BORIS I.
Examiner	Art Unit
Peter J Lish	1754
pears on the cover sheet with the	s correspondence du l'ec
Y IS SET TO EXPIRE 3 MONT	H(S) FROM
136(a). In no event, however, may a reply be	e timely filed
oly within the statutory minimum of thirty (30) of will apply and will expire SIX (6) MONTHS from the cause the application to become ABANDO and date of this communication, even if timely from the communication of the c	days will be considered timely. om the mailing date of this communication. NED (35 U.S.C. § 133).
February 2003	
his action is non-final.	
vance except for formal matters, r <i>Ex parte Quayle</i> , 1935 C.D. 11	, prosecution as to the merits is 1, 453 O.G. 213.
he application.	
awn from consideration.	
or election requirement.	
ner.	
cepted or b) objected to by the E	Examiner.
the drawing(s) be held in abeyance	
is: a)□ approved b)□ disap	proved by the Examiner.
reply to this Office action.	
Examiner.	
ign priority under 35 U.S.C. § 11	19(a)-(d) or (f).
ents have been received.	
ents have been received in Appli	
riority documents have been red Bureau (PCT Rule 17.2(a)). ist of the certified copies not rec	
	19(e) (to a provisional application).
provisional application has been	

### Office Action Summary    Examiner   Farminer   Farm				Application	40.	Applicant(o)				
Period for Repty  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Experience for many be available under the processor at 3°CR 1.13(a), in no event, however, may a repty be briefly fixed in the processor of 3°CR 1.13(a), in no event, however, may a repty be briefly fixed in the processor of 3°CR 1.13(a), in no event, however, may a repty be briefly fixed in the processor of 3°CR 1.13(a), in no event, however, may a repty be briefly fixed in the processor of 3°CR 1.13(a), in no event, however, may a repty be briefly fixed in the processor of 3°CR 1.13(a), in no event, however, may a repty be briefly fixed in the processor of 3°CR 1.13(a), in no event, however, may a repty be briefly fixed or the substance of the summunication.  1 NO period for may is specified soon when hearness and start plant and the state of the summunication.  2 No period for may is specified and on the summunication of 3°CR 1.13(a).  3 No period for may in summunication of 3°CR 1.13(a).  3 No period for 1.13(a) and 1.13(a)			09/866,021		YAKOBSON, BORIS I.					
- The MAILING DATE of this communication appears on the cover sheet with the correspondence address - Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE WAILING DATE OF THIS COMMUNICATION. THE WAILING DATE OF THIS COMMUNICATION. THE WAILING DATE OF THIS COMMUNICATION. If the wait of the previous developer of the communication and the provide and so of JCRR 1.33(a). In no event, however, may a reply be timely filed after the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed after the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed or the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed on the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed and the previous of JCRR 1.33(a). In no event, however, may a reply ded, and the previous of JCRR 1.33(a). In no event, however, may a reply be timely filed on the previous of JCRR 1.33(a). In no event, however, and the previous of JCRR 1.33(a). In no event, however, may a reply ted on the previous of JCRR 1.33(a). In no event, however, may a reply ded, and the previous of JCRR 1.33(a). In no event, however, may a reply ded, and the previous of JCRR 1.33(a). In no event, however, may a reply be the grant previous of JCRR 1.33(a). In no event, however, however, however,		Offic	Action Summary	Examiner		Art Unit				
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MALING DATE or THIS COMMUNICATION THE MALING DATE or THIS COMMUNICATION  IN THE MALING THE MALING DATE OF THIS COMMUNICATION  IN THE MALING THE MA				Peter J Lish			ldross -			
THE MAILING DATE OF THIS COMMONICS AI ION.  Extresions of mem ray be waitable under the provisions of 3 CPR 1.36(s). In no event, however, may a reply be limitly filled of the Post of th	Period for Reply									
This action is FINAL. 2b  This action is non-final.  3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) Claim(s) 24-25 and 28-32 is/are pending in the application.  4a) Of the above claim(s) is/are ellowed.  6) Claim(s) is/are allowed.  6) Claim(s) is/are allowed.  6) Claim(s) is/are objected to.  3) Claim(s) is/are objected to.  3) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1 Certified copies of the priority documents have been received.  2 Certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  *See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  10	A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).									
2a)  This action is FINAL. 2b  This action is non-final.  3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4)  Claim(s)  24-25 and 28-32 is/are pending in the application.  4a) Of the above claim(s) is/are ellowed.  6)  Claim(s) is/are allowed.  6)  Claim(s) is/are allowed.  6)  Claim(s) is/are objected to.  8)  Claim(s) are subject to restriction and/or election requirement.  Application Papers  9)  The specification is objected to by the Examiner.  10)  The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11)  The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12)  The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)  All b)  Some * c)  None of:  1.  Certified copies of the priority documents have been received.  2.  Certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  *See the attached detailed Office action for a list of the certified copies on the priority under 35 U.S.C. § 119(e) (to a provisional application).  a)  The translation of the foreign language provisional application has been received.  15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1)  Notice of References Cited (PTO-892)  2)  Notice of References Cited (PTO-892)  3)  Notice of References Cited (PTO-892)  5)  Notice of Information Patent Application	1)⊠	Respons	sive to communication(s) filed on <u>05 i</u>	February 2000	<u>3</u> .					
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) ○ Claim(s) 24-25 and 28-32 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) ○ Claim(s) is/are allowed.  6) ○ Claim(s) is/are allowed.  7) ○ Claim(s) is/are objected to.  8) ○ Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) ○ The specification is objected to by the Examiner.  10) ○ The drawing(s) filed on is/are: a) ○ accepted or b) ○ objected to by the Examiner.  Application Papers  9) ○ The proposed drawing correction filed on is: a) ○ approved b) ○ disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) ○ The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) ○ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ○ All b) ○ Some * c) ○ None of:  1. ○ Certified copies of the priority documents have been received in Application No  3. ○ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) ○ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) ○ The translation of the foreign language provisional application has been received.  15) ○ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 120 and/or 121.  Attachment(s)  Notice of References Cited (PTO-892)  30 Notice of Information Patent Application (PTO-152)		This acti	on is <b>FINAL</b> . 2b) ☐ Th	nis action is no	on-final.					
A) Claim(s) 24-25 and 28-32 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) Claim(s) is/are allowed.  6) Claim(s) is/are allowed.  6) Claim(s) is/are objected to.  8) Claim(s) is/are objected to.  8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 120 and/or 121.  Attachment(s)  1) Notice of References Clied (PTO-892)  Notice of Orafbasprason's Patent Drawing Review (PTO-948)	as Since this application is in condition for allowance except for formal matters, prosecution as to the merits is									
4a) Of the above claim(s) is/are withdrawn from consideration.  5) □ Claim(s) is/are allowed.  6) ☑ Claim(s) is/are allowed.  7) □ Claim(s) is/are objected to.  8) □ Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) □ The specification is objected to by the Examiner.  10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) □ The proposed drawing correction filed on is: a) □ approved b) □ disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) □ The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) □ All b) □ Some * c) □ None of:  1. □ Certified copies of the priority documents have been received.  2. □ Certified copies of the priority documents have been received in Application No  3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) □ The translation of the foreign language provisional application has been received.  15) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 120 and/or 121.  Attachment(s)  10 Notice of References Cited (PTO-892)  11 Notice of References Cited (PTO-892)  12 Notice of Informal Patent Application (PTO-152)	Disposition of Claims									
5) □ Claim(s) is/are allowed. 6) □ Claim(s) is/are allowed. 7) □ Claim(s) is/are objected to. 8) □ Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) □ The specification is objected to by the Examiner.  10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) □ The proposed drawing correction filed on is: a) □ approved b) □ disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) □ The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) □ All b) □ Some * c) □ None of:  1 □ Certified copies of the priority documents have been received in Application No  3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) □ The translation of the foreign language provisional application has been received.  15) □ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) □ Notice of References Cited (PTO-892)  1) □ Notice of References Cited (PTO-892)  1) □ Notice of Informal Patent Application (PTO-152)	4)⊠	4)⊠ Claim(s) <u>24-25 and 28-32</u> is/are pending in the application.								
6) Claim(s) 24-25 and 28-32 is/are rejected.  7) Claim(s) is/are objected to.  8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  10 Notice of References Cited (PTO-892)  11 Notice of References Cited (PTO-152)										
7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  Notice of References Cited (PTO-892)  Notice of References Cited (PTO-892)  Notice of Informal Patent Application (PTO-152)										
8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some *c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  5) Notice of Informal Patent Application (PTO-152)										
Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  3) Notice of References Cited (PTO-892)  5) Notice of Informal Patent Application (PTO-152)	7)	Claim(s)	is/are objected to.							
9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. § 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some *c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  3) Notice of References Cited (PTO-892)  4) Interview Summary (PTO-413) Paper No(s)	8) Claim(s) are subject to restriction and/or election requirement.									
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  Notice of Prafisperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)	1									
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  3) Notice of Informal Patent Application (PTO-152)	9)	The speci	fication is objected to by the Examin	er. 	hinated to by the Ex	vaminer				
11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.  If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  4) Interview Summary (PTO-413) Paper No(s)  Notice of References Cited (PTO-892)  Notice of Draftsperson's Patent Drawing Review (PTO-948)	10)	The draw	ing(s) filed on is/are: a)∐ acce	epted or D) 🔲 0	o hold in characte	See 37 CFR 1 85/a)	l.			
If approved, corrected drawings are required in reply to this Office action.  12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)		Applicar	nt may not request that any objection to t	ne grawing(s) b	e neid in abeyance. Proved h\III disent	proved by the Exami	ner.			
12) The oath or declaration is objected to by the Examiner.  Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some colonic None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  Notice of Informal Patent Application (PTO-152)	11)	The propo	osed drawing correction filed on	is: a)∐ app	o action	NO FOR DY THE ENGINE				
Priority under 35 U.S.C. §§ 119 and 120  13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)										
13)   Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)										
a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  1) Notice of Praftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)	Priority	under 35	U.S.C. §§ 119 and 120	,	25 U.S.C. \$ 440	)(a)_(d) or (f)				
1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  1 Interview Summary (PTO-413) Paper No(s)	I									
2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  1 Interview Summary (PTO-413) Paper No(s)	a)									
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)		1. Certified copies of the priority documents have been received.								
application from the International Bureau (PCT Rdie 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  1 Interview Summary (PTO-413) Paper No(s).  5 Notice of Informal Patent Application (PTO-152)		2. Certified copies of the priority documents have been received in Application No								
14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  10 Notice of Informal Patent Application (PTO-152)	application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.									
a) The translation of the foreign language provisional application has been received.  15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  5) Notice of Informal Patent Application (PTO-152)	14)	14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).								
Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  4) Interview Summary (PTO-413) Paper No(s)  5) Notice of Informal Patent Application (PTO-152)	The translation of the foreign language provisional application has been received.									
1) Notice of References Cited (PTO-892)  4) Interview Summary (PTO-413) Paper No(s)  5) Notice of Draftsperson's Patent Drawing Review (PTO-948)										
	1)  Not	ice of Reference	person's Patent Drawing Review (PTO-948)		5) Notice of Inform	nary (PTO-413) Paper I nal Patent Application (I	No(s) PTO-152)			

U.S. Patent and Trademark Office PTO-326 (Rev. 04-01)

Art Unit: 1754

## **DETAILED ACTION**

Applicant's arguments filed 2/5/03 have been fully considered but they are not persuasive. The applicant argues that the Charlier reference does not teach "an area of modified lattice structure positioned between the dipole" (the dipole being between the opposed and spaced apart pentagon-heptagon defects). However, the Charlier reference clearly teaches, as was noted in the previous action, paper #8, that these defects often lead to a connection of two cylindrical, straight portions with different physical structures (such as diameter and helicity) and electronic properties (such as metallic or semiconducting properties which are dependent upon the chiral vector or lattice structure). Additionally, the modified lattice structure is inherent to the area positioned between the opposed and spaced apart pentagon-heptagon defects.

The applicant also argues that the Charlier reference fails to teach the method by which applicant produces the claimed structure. Examiner notes that the structure being claimed is independent from the method by which it may be produced. The applicant furthermore argues that the Charlier reference teaches away from the claimed invention because it is concerned with eliminating 5/7 pair defects. Again, examiner notes that the structure being claimed is independent from the method by which is may be produced. Thus, while the Charlier reference may teach the elimination of such defects, this does not teach away from the existence of the structure.

Claim Rejections - 35 USC § 102

Art Unit: 1754

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Charlier et al. ("Structural and electronic properties of pentagon-heptagon pair defects in carbon nanotubes").

The rejection of the previous action, paper #8, is maintained in its entirety and incorporated herein by reference.

Claims 28 and 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Charlier et al. ("Structural and electronic properties of pentagon-heptagon pair defects in carbon nanotubes").

Charlier et al. is applied as in the previous action, paper #8. Charlier et al. additionally teach that the lattice structure is a hexagonal structure, see figure 1, that the nanotubes comprise carbon, and that the properties which may be modified are electronic properties.

Claims 29-30 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Charlier et al.

Charlier et al. is applied as in the previous office action, paper #8. Additionally, it is expected that the domain of modified lattice structure propagates in an imaginary spiral line between said defects, because the modified lattice structure is inherent to the opposed and spaced apart pentagon-heptagon defects. Alternatively, it would have been obvious to one of ordinary

Art Unit: 1754

skill at the time of invention that the modified structure propagates between said defects, as the defects are the cause of the modified lattice structure.

It is also expected that the chirality vectors of Charlier et al. are (10, 10) in the normal (not modified) lattice structure and (10, 9) in the modified lattice structure. This is expected because the modified lattice structure is inherent to the opposed and spaced apart pentagon-heptagon defects. Alternatively, it would have been obvious to one of ordinary skill at the time of invention because the (10, 10) structure is the most common structure of carbon nanotubes, while the (10, 9) structure is the second most common, and additionally because they have different electronic properties.

## Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1754

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Lish whose telephone number is 703-308-1772. The examiner can normally be reached on 9:00-6:00 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

PL March 3, 2003

> STUART L. HENDRECKSON PRIMARY EXAMINER